



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,068	02/18/2005	Yoshiki Hashizume	0033-0983PUS1	5831
2292 7590 03/22/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER ABU ALI, SHUANGYI	
			ART UNIT 1755	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		03/22/2007	ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/22/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

## Office Action Summary

Application No.

10/525,068

Applicant(s)

HASHIZUME ET AL.

Examiner

Shuangyi Abu-Ali

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

(1)

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-12 and 15 have been considered but are moot in view of the new ground(s) of rejection.

(2)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4, 6-12 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent Application Publication No. 2004/0194663 A1 to Li et al., in view of U.S. Patent No. 5,637,143 to Jenkins et al.

Regarding claim 1, Li et al. disclose a method of making a high corrosion resistance, and high metallic luster aluminum pigment ([0015], line 4) by treating the pigment with phosphoric acid compound and a coating of amorphous silica (abstract). But they are silent about the aluminum pigment has a coating of molybdenum as applicant set forth in claim 1.

However, Jenkins et al., also drawn to anti-corrosive aluminum pigment of high metallic luster, disclose an aluminum pigment treated with phosphomolybdic acid (col. 5, lines 35 and 36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to substitute phosphoric acid with phosphomolybdic acid to coat an aluminum pigment as applicant set forth in claim 1, motivated by the fact that aluminum pigment have good corrosion resistance and good optical property (abstract).

Regarding claim 4, Li et al. disclose Silane coupling agent is used in paint to provide desired dispersibility ([0117], lines 7-9).

Regarding claim 6, Li et al. disclose a resin composition comprising of 0.988 wt% of pigment ([0202]).

Regarding claim 7, combining teaching of Li et al and Jenkins et al disclose an aluminum pigment of high metallic luster and corrosion resistance as set forth in claim 1.

Jenkins et al. disclose a method for the manufacture of an aluminum pigment wherein a molybdenum coating is applied thereto by stirring a dispersed solution of aluminum particles and a molybdenum compound (col. 7, lines 49-57).

And Li et al. disclose a method of preparing silica coating by via a hydrolysis of an organic silicon compound with a hydrolytic catalyst such as an ammonia solution ([0142]).

Regarding claim 8, Jenkins et al. disclose that the molybdenum starting material used is phosphomolybdic acid (col. 7, lines 52-53).

Regarding claims 9-11, Li et al. disclose that tetraethoxysilane is used as the organic silicon compound ([0142]). Hydrolysis reaction takes place in the presence of tetraethoxysilane, organic solvent and basic catalyst such as ammonia solution. since basic ammonia solution used in reaction, the pH of the reaction mixture will be adjusted upward into the basic range (7-11).

Regarding claims 12 and 15, Li et al. disclose that multi-layer silica can be formed for the aluminum pigment ([0076]). The silica coating can be prepared from various materials such as tetramethoxy silicate, tetraethoxy silicate, and silane coupling agent. The material can be used alone or in combination ([0077]). In the process of making silica coating, ammonium compound can be used as basic catalyst for hydrolyzing the material to form a dense and homogenous silica coat ([0083]).

(3)

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over combining teaching of U. S. Patent Application Publication No. 2004/0194663 A1 to Li et al. and U.S. Patent No. 5,637,143 to Jenkins et al. set forth above, further in view of U. S. Patent No. 5,624,486 to Schmid et al.

Regarding claims 2 and 3, combining teaching of Li et al. and Jenkins et al. disclose an aluminum pigment has the coating structure as applicant set forth in claim 1. But they are silent about the content of coatings as applicant set forth in claim 2.

However, Schmid et al., also drawn to make a multi-layer coated aluminum luster metallic pigment, disclose in one of their pigment examples that the molybdenum amount is 2.2% and the silicon oxide amount is 18.8%( col. 9, lines 49-57).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to make a coated aluminum pigment having the silica and molybdenum content as applicant set forth in claims 2 and 3, motivated by the fact that Schmid et al. teaches a high metallic luster pigment is obtained (col. 2, lines 37-39).

(4)

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over combining teaching of U. S. Patent Application Publication No. 2004/0194663 A1 to Li et al. and U.S. Patent No. 5,637,143 to Jenkins et al. set forth above, further in view of U. S. Patent No. 5,688,314 Rose et al.

Regarding claim 5, combining teaching of Li et al. and Jenkins et al. disclose an aluminum pigment has the coating structure as applicant set forth in claim 1 and silane

treatment. But they are silent about the specific silane used as applicant set forth in claim 5.

However, it would have been obvious to one of ordinary skill in the art at time of invention by applicant to use the claimed silane, motivated by the fact that Nishimagi et al., also drawn to pigment treatment, disclose pigments treated with alkyl trimethoxysilanes having an aliphatic chain with 8 or more carbon atoms have increased resin affinity (col. 6, lines 55-63).

(5)

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Such prior art includes reference C-D and F are listed on Form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuangyi Abu-Ali whose telephone number is 571-272-6453. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1755

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SA

  
J.A. LORENGO  
SUPERVISORY PATENT EXAMINER